

**Permsirivanich W, Tipchatyotin S, et al. Comparing the Effects of Rehabilitation Swallowing Therapy vs. Neuromuscular Electrical Stimulation Therapy Among Stroke Patients with Persistent Pharyngeal Dysphagia: A Randomized Controlled Study. J Med Assoc Thai 2009;92(2): 259-265.**

Design: Randomized clinical trial

Brief summary of findings:

- 23 post-stroke patients (9 men, 14 women, mean age 64) with 2 weeks of persistent dysphagia were treated in a university setting in Thailand
- Selected patients had videofluoroscopic studies showing pharyngeal dysphagia
- Randomized to rehabilitation swallowing techniques (RST, n=11) or to neuromuscular electrical stimulation (NMES, n=12)
- RST and NMES were both performed for 60 minutes per day for 5 consecutive days and 2 days off for a period of 4 weeks
- RST was individualized based on bolus control and airway protection; the strategies were implemented by an occupational therapist, and included diet modification, oral motor exercise, thermal stimulation, head and neck positioning, supraglottic swallowing, effortful swallowing, and the Mendelsohn maneuver (the patient manually maintains the larynx at the highest point of the swallow cycle for 5 seconds for each swallow)
- NMES included diet modification and oral motor exercise, and included NMES by a dual-channel electrotherapy system administered by a physiatrist trained in use of the NMES system
- The Functional Oral Intake Scale (FOIS), a 7-point scale in which 1 is no oral intake, 2 and 3 are tube feedings, 4 is oral diet of a single consistency, and 5, 6, and 7 are decreasing restrictions on a total oral diet, was used as the main outcome
- The RST group averaged 18.36 treatment sessions and the NMES group averaged 17.25 treatment sessions
- Overall, 21 of the 23 patients improved their FOIS score by at least 1 unit
- The average changes in the FOIS score were 2.46 points for the RST group and 3.17 points for the NMES group ( $p<0.001$ )

Authors' conclusions:

- Not explicitly stated, but the discussion section suggests that NMES is effective for mild-to-moderate dysphagia following a stroke

Comments:

- Although the authors report that the FOIS score improvements were greater in the NMES group than in the RST group ( $p,0.001$ ), the actual  $p$  value based on the group differences, standard deviations, and standard errors is closer to 0.22
- A calculation based on chi square for trend in the FOIS score changes produces a  $p$  value of 0.153

- The group scores are not different with respect to FOIS changes
- NMES and RST are not shown to be differently effective for dysphagia

Assessment: Inadequate for evidence for NMES for dysphagia